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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,346	07/02/2004	Hon-Yuan Lco	12851-US-PA	4345

31561 7590 07/13/2007
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

XIAO, KE

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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07/13/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

Office Action Summary	Application No.	Applicant(s)	
	10/710,346	LEO ET AL.	
	Examiner	Art Unit	
	Ke Xiao	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 7, 8 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yang (US 4,855,724).

Regarding independent **Claim 1**, Yang teaches a liquid crystal panel (Yang, Fig. 4), comprising:

a display area having MxN pixel for providing MxN resolution, each of the pixels including K sub-pixels (Yang, Fig. 4 a 4x1 outlined configuration of pixels, each pixel inclining 3 sub pixels);

a row driver having IxN scan lines coupled to the display area (Yang, Fig. 4 two scan lines for the single row of pixels); and

a column driver having JxM data lines coupled to the display area for cooperating with the row drive to complete driving M pixels on a same row in the display area after the row driver scans I times (Yang, Fig. 4 for every 2 rows all M pixels are scanned), wherein $I \times J = K$, and $1 < I, J < K$ (Yang, Fig. 4, $I = 2$, $J = 1.5$, $K = 3$).

Regarding independent **Claim 7**, Yang teaches a method for driving a liquid crystal panel (Yang, Fig. 4) having a display area having MxN pixels providing MxN resolution, each of the pixels including K sub-pixels (Yang, Fig. 4 a 4x1 outlined configuration of pixels, each pixel inclining 3 sub pixels), the method comprising:

scanning IxN scan lines in the display area in sequence (Yang, Fig. 4 two scan lines for the single row of pixels);

and providing JxM sub-pixel data to JxM data lines in the display area after scanning each of the IxN scan lines to complete driving M pixels on a same row in the display area after scanning the scan lines for I times (Yang, Fig. 4, for every 2 rows all M pixels are scanned);

wherein $I \times J = K$, and $1 < I, J < K$ (Yang, Fig. 4, $I = 2$, $J = 1.5$, $K = 3$).

Regarding **Claims 2 and 8**, Yang further teaches that K is 3, I is 2 and J is 1.5 (Yang, Fig. 4, $I = 2$, $J = 1.5$, $K = 3$).

Regarding **Claim 5**, Yang further teaches that the MxN pixels are arranged in a delta manner (Yang, Fig. 4 element 22).

Regarding **Claim 13**, Yang further teaches a timing sequence driving method for a timing sequence control circuit, the timing sequence driving method at least comprising the method for driving the liquid crystal panel of Claim 7 (Yang, Fig. 4 element 12, 14, 20 and 140).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 4,855,724) in view of Koyama (US 6,380,919).

Regarding **Claims 3 and 4**, Yang fails to teach an even column driver, an odd column driver, an even row driver, and an odd row driver as claimed. Koyama teaches an even column driver for driving an even portion of data lines of a display area, an odd column driver for driving an odd portions of data lines of a display area, an even row driver for driving an even portion of scan lines of a display area, and an odd row driver for driving an odd portion of scan lines of a display area (Koyama, Fig. 5A). It would have been obvious to one of ordinary skill in the art to use the even and odd column and row drivers as taught by Koyama in the system of Yang in order to increase density of the display elements.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 4,855,724) in view of the applicant's admitted prior art (AAPA).

Regarding **Claim 6**, Yang fails to teach a liquid crystal display projector system comprising the liquid crystal panel of Claim 1. The AAPA teaches that it is well known in the art to use liquid crystal display systems in projection systems (AAPA, Pg. 1

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paragraph [0010])). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the liquid crystal display panel of Yang in a projection system as taught by the AAPA in order to more easily realize a larger display.

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 4,855,724).

Regarding **Claims 9-12**, Yang fails to teach scanning the scan lines from top to bottom or bottom to top and providing the data from left to right or from right to left. Since the applicant has failed to disclose that the direction of scanning or providing data provides an advantage, is used for a particular purpose, or solves a stated problem, it is an obvious matter of design choice to have scanned and provided the data sequentially in any direction. Therefore it would have been obvious to one of ordinary art at the time of the invention to scan from top to bottom or bottom to top and to provide the data from left to right or right to left because it would have accomplished the purpose of displaying the image data equally as well.

Response to Arguments

Applicant's arguments with respect to Claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

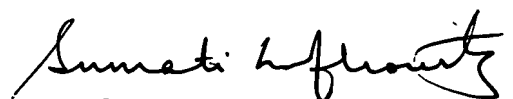
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571) 272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 27th, 2007 - kx -


SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER